

## AWIPS SYSTEM MODIFICATION NOTE 14 (for Electronics Technicians)

Maintenance Logistics &amp; Acquisition Division

W/OPS12: JS

SUBJECT : RFC Archive Server Installation Procedures.

PURPOSE : To provide installation procedures for the RFC Archive Server.

EQUIPMENT AFFECTED : Advanced Weather Interactive Processing System (AWIPS).

PARTS REQUIRED : IBM will drop ship the server (1 box) and Northrop Grumman Information Technology, Inc (NGIT) will ship all other required parts to the sites (2 boxes). Some sites will be missing the 1.75" formed blank panel, which will be shipped at a later date for subsequent installation.

SPECIAL TOOLS REQUIRED : Standard site tool kit, Xyplex tool, spare monitor, keyboard, and mouse.

MODIFICATION PROCUREMENT : None

EFFECTIVITY : All AWIPS RFC sites listed in attachment A.

ESTIMATED TIME REQUIRED : 4 to 6 hours

EFFECT ON OTHER INSTRUCTIONS : None. File this note in EHB-13, Series II, section 5.1.

AUTHORIZATION : The authority for this modification note is Request for Change AB458.

VERIFICATION STATEMENT : This modification was tested at the National Weather Service Headquarters NHDA, TBDR, and NMTR, Silver Spring, MD (SLVM2).

TECHNICAL SUPPORT : For questions or problems regarding these installation instructions please contact Jagdish Sharma at 301-713-1833 x163. For any other questions, please contact the NCF at 301-713-9344.

**NOTE: Installation Guidelines**

- ESAs are asked to schedule the Archive Server (AX) installations with their AWIPS regional focal points.
- AWIPS regional focal points are asked to coordinate the AX installation using Netscape calendar set aside for AWIPS software upgrades. The attached document provides instructions on how to access: <http://calendar.netscape.com>
- NCF/NGIT upgrade support is available from 7AM to 7PM EDT, Monday through Thursday.
- A maximum number of 3 sites per day will be upgraded.
- Review the complete modification note before performing the installation.
- If any of the installation instructions require further clarification, call the NCF.
- Sites must coordinate the AX installation with their regional AWIPS focal point. COMET, the Training Center, and the systems at WSH should schedule their upgrade themselves using the calendar feature on Netscape set aside for AWIPS software upgrades.

**GENERAL:**

**Call the NCF before performing these instructions.** Read each step **thoroughly** before performing a procedure.

**NOTE:** OB1 **must** be installed to perform this installation.

Verify all material shipped from IBM and NGIT is on site and ready for installation.

1. Material shipped by IBM:  
xSeries 235 server

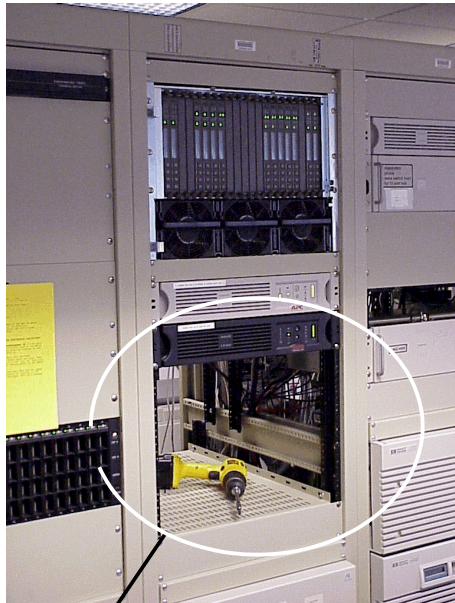
## 2. Material shipped by NGIT:

<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
NWS5134	100BaseT 5 Port Switch (Netgear FS105)	1
NWS5404	Cable, Patch, 4-Pair RJ45-RJ45 Cat 5e w/hood, 6 ft	2
NWS5262	Cable, Solid, 4-Pair RJ45-RJ45 Cat 5e w/hood, 25 ft Plenum	1
NWS3050	Cable, Sol Cnsl, 4-Pair DB9F-RJ45 Cat 5, 50ft Plen	1
NWS5260	Horizontal Rack Power Strip - 12 Outlet (TrippLite RS-1215)	2
NWS3190	Blank Panel - Formed, 1.75 Inch (Bud P/N 44829)	1
NWS2834	Blank Panel, 3.5 Inch	1
NWS3814	Vertical Mounting Rails (Bud P/N 447002)	1 pair
N/A	Rack Screws and Capture Nuts	1 lot
NWS5446	RFC Archiver Software CD-2612	1
NWS5436- NWS5440, NWS5447	Informix Media (6 CDs) and Documentation	1 lot
NWS5326	Blank Media, CD-RW	2 discs
NWS5325	Blank Media, DVD-RW	4 discs
NWS5415	DLT Tape	2
NWS5416	DLT Cleaning Tape	1
N/A	Device label for front of X235 server	1

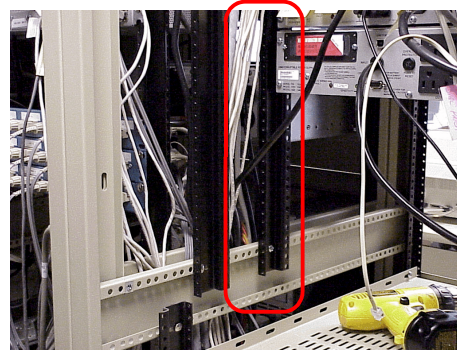
**NOTE:** This procedure requires six hours to accomplish. During the initial boot of the Archive Server (Section D, step 20) a thorough disk check is performed. The disk check will take 30 minutes or longer to complete.

**PROCEDURE:****A. AWIPS AS2 Rack Preparation Procedure**

1. Remove the blank panels from the upper half of rack 4 (between AS2 and the Modem Nest – see Figure 1). The 1.75-inch formed panel directly above the AS may be left in place if desired.
2. Install new capture nuts over the 21<sup>st</sup> hole (approximately 13-inches) from the rear of the rack, along the top rail of the center side brace and top rail of the top side brace.
3. Mount the new set of vertical mounting rails (provided – see Figure 2, red outlined box) to the rack side braces with the threaded mounting flange facing rearward and the end of the rail with the single mounting slot at the bottom. Before tightening the mounting screws, slide the vertical rails as far back in the rack as the adjustment slots will allow.

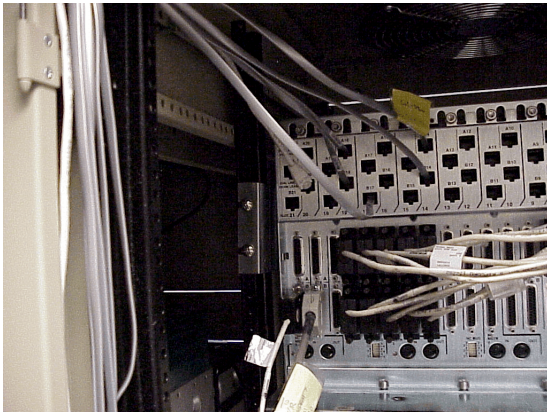
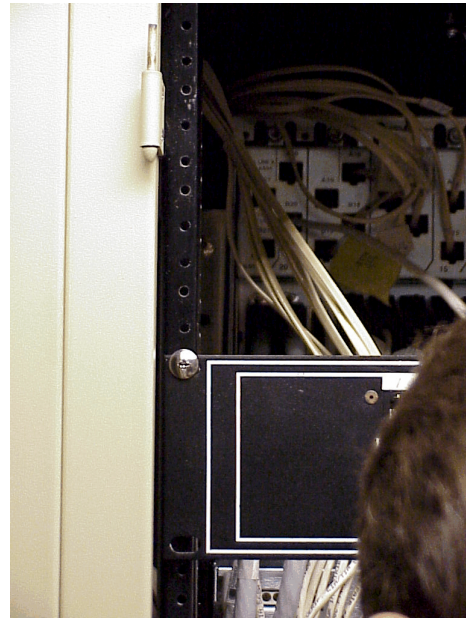
**Figure 1**

Removed blank panel space

**Figure 2**

4. Remove the power strips (and mounting hardware) from the rack and lay them aside. Except for the fan, **do not** unplug any of the devices from the power strips.
5. Cut any tie-wraps that secure cabling to the upper rear vertical rails and ensure that the cables will not interfere with moving the rails or the modem nest support brackets (Figure 3).
6. Remove the screws that attach the modem nest support brackets to the vertical rails and relocate the support brackets to the newly installed vertical rails. The brackets will flex sufficiently enough to clear the rear rails.
7. Secure the modem nest support brackets to the newly installed rail by inserting screws in the 13<sup>th</sup> and 16<sup>th</sup> hole from the top of the rack (Figure 4).
8. Install new capture nuts over the 3<sup>rd</sup> hole (approx. 2 inches – Figure 5) from the rear of the rack, along the top rail of the center side brace and top rail of the top side brace.



**Figure 3****Figure 4****Figure 5**

9. Remove the upper rear vertical rails from their current position and attach them to the capture nuts installed in Step 8. Before tightening the mounting screws, slide the vertical rails as far forward in the rack as the adjustment slots will allow.

This completes the AS2 rack preparation procedure.

#### **B. Archive Server Hardware Installation Procedure**

1. Remove and discard the guide pins (Figure 6) from the Archive Server rack mount's front and rear mounting plate.

2. Attach the front mounting plate of the Archive Server rack mount kit to the 8<sup>th</sup> and 9<sup>th</sup> hole from the bottom of the Modem Nest (Figure 7). Do not fully tighten the screws at this time.

**NOTE:** 1. The slide rails are labeled Left and Right. The markings are based on the installer facing the front of the rack. The hook that protrudes from the front mounting plate (Figure 7) should be on the bottom.

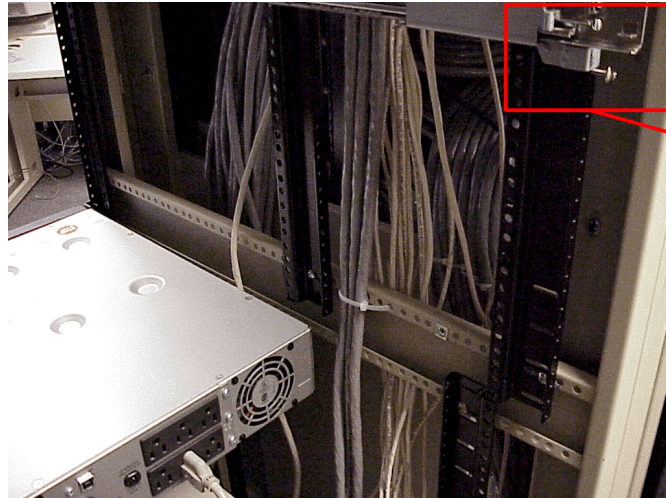


**Figure 6**



**Figure 7**

3. Attach the rear mounting plate of the Archive Server rack mount kit to the 22<sup>nd</sup> and 24<sup>th</sup> hole from the bottom of the rear vertical mounting rails (Figure 8). Do not fully tighten the screws at this time.
4. Push up on the front mounting plates of the slide rails and tighten the screws.
5. Repeat Step 4 for the rear mounting plate.
6. Fully extend the slide rails ensuring that they securely latch in the extended position (Figure 9).

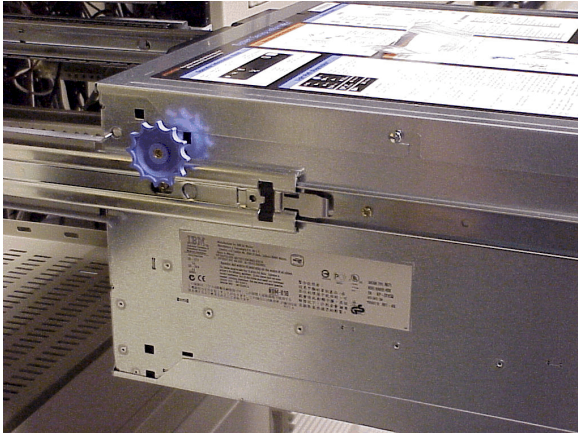
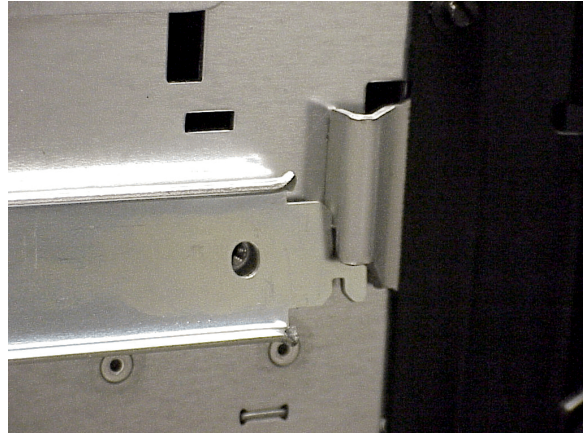
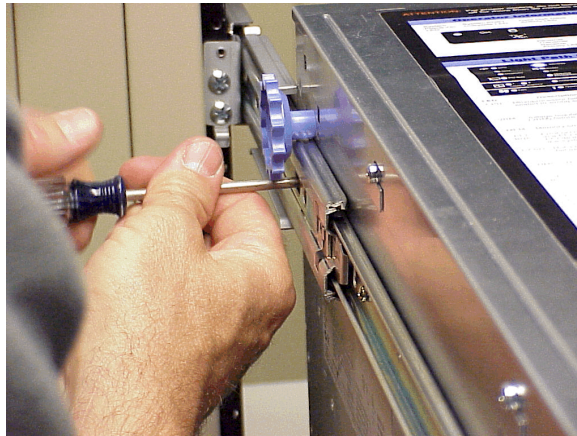
**Figure 8****Figure 9**

**NOTE:** 2. Before placing the Archive Server on the slide rails, verify that the blue rack-support wheels are attached at the upper rear corners of the server. If necessary, relocate the rack-support wheels to that position.

7. Using 2 people, lift the Archive Server onto the slide rails. Rest the back of the server on the blue rack-support wheels (Figure 10) and hook the tabs on the end of the slide rails into the notches on the front of the server (Figure 11). Attach the server to the slide rails with the screws provided in the rack mount kit (Part Number 79F3333 – see Figure 12). There are four screw holes on each side of

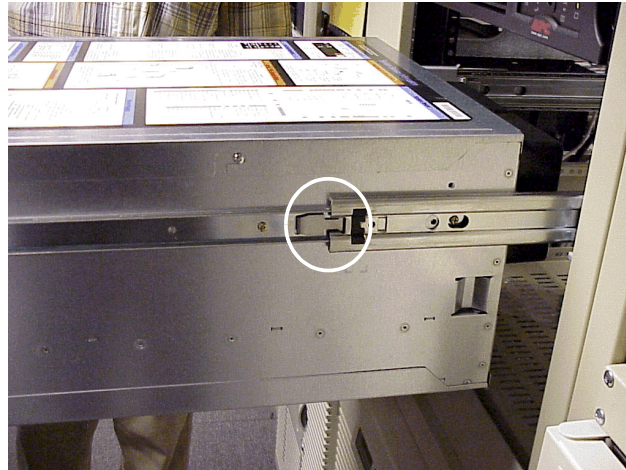


the server for attaching the slide rail. Remove the rack-support wheels from the server, place them in a plastic baggy and store the baggy in the rack (reinstallation of these wheels is necessary if the server needs to be removed from the slide rails).

**Figure 10****Figure 11****Figure 12**

8. Depress the slide rail tabs (Figure 13) and slide the Archive Server chassis fully into the rack, being careful not to bind or pinch any existing cables. It may be necessary to adjust the position of existing cables. Be aware that the fit around the latch mechanism is tight and will require finesse. Secure the server by installing rack-mount screws in the lower corners of the front panel.

This completes the archive server hardware installation.

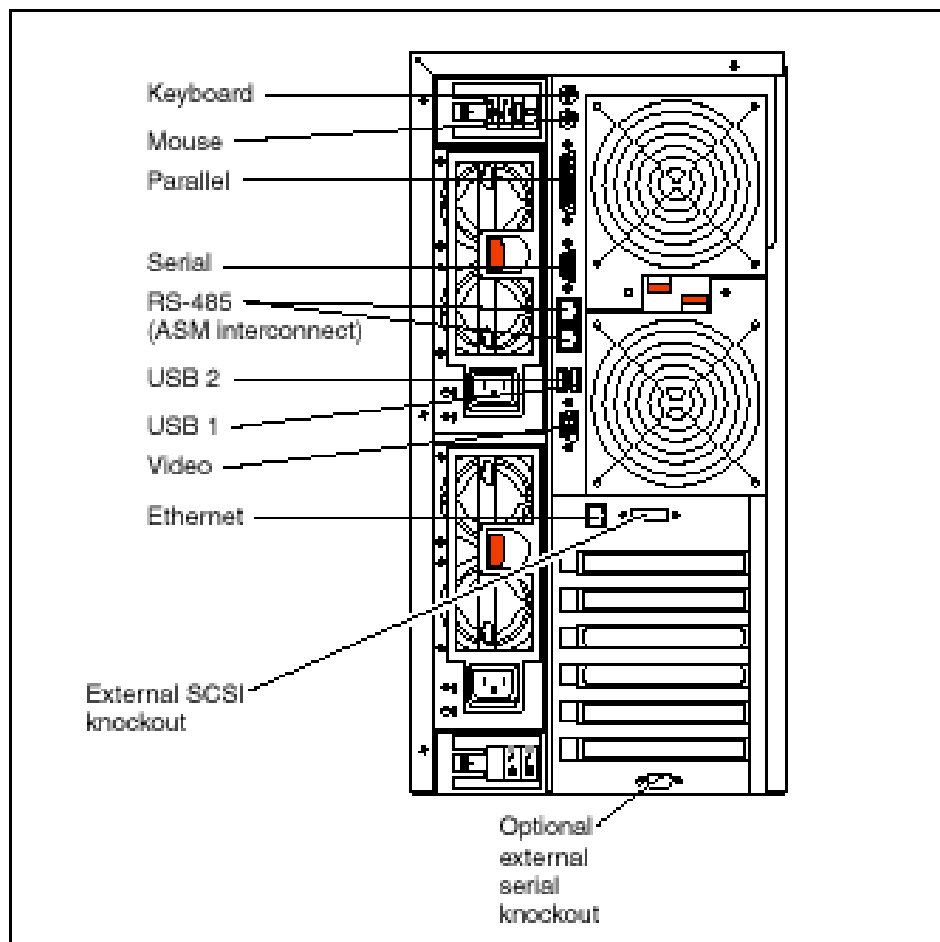


**Figure 13**

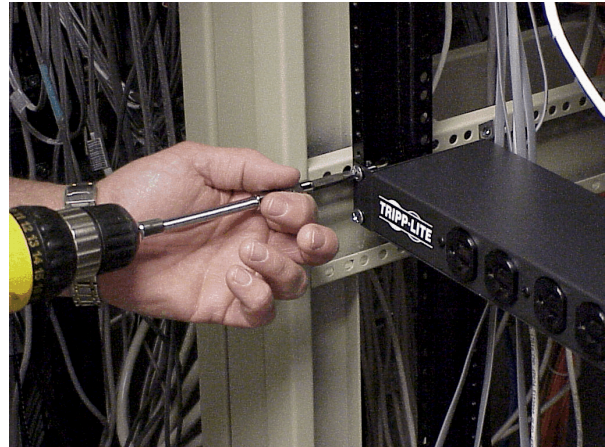
**C. Archive Server Cabling Procedure**

1. Stack the 10/100BaseT 5-Port Switch (AX/SW) on the shelf in Rack 6 next to the Autoloader. Plug the power supply of AX/SW into the fifth outlet from the top of the left power strip.
2. Install the LA1CW120 cable (NWS5262) between Rack 4 and Rack 6.
3. Install the LA1CW121 and LA1CW122 cables (NWS5404) between Rack 5 and Rack 6.
4. Connect the Rack 6 end of the LA1CW120 cable (NWS5262) to port 4 of AX/SW.
5. Connect the Rack 4 end of the LA1CW120 cable (NWS5262) to the LAN interface (J26) on the Archive Server. This is the interface to the right of the fans when looking at the server from the rear and identified as Item# 33 on the System Information Diagram and as the Ethernet port in Figure 14. DO NOT use the expansion slot LAN interface.
6. Connect the Rack 6 end of the LA1CW121 and LA1CW122 cables (NWS5404) to ports 1 and 2 of AX/SW.
7. Connect the Rack 5 end of the LA1CW121 and LA1CW122 cables (NWS5404) to ports 23 of HSL/SW 1 and 2.
8. Install LA1CW123 (NWS3049) between WFO Xyplex port 32 and the serial port (J8) on the Archive Server (Figure 14). This port is Item# 40 on the System Information Diagram.

This completes the archive server cabling procedure.

**Figure 14****D. Archive Server Power Up Procedure**

1. Install horizontal power strip #1 at the top of the upper rear rail (Figure 15).
2. Install the second horizontal power strip (#2) at the bottom of the upper rear rail (Figure 16).

**Figure 15****Figure 16**

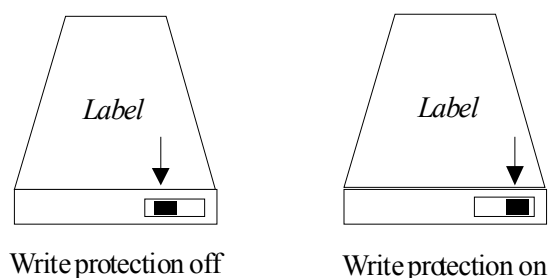
**NOTE:** 1. If the circuit for AS2 rack is terminated in a 'quad box' the new power strips may be plugged into the open outlets. The existing power strips can be permanently removed at the completion of Step 12.

3. Plug the Archive Server power cord from power supply 1 into receptacle one (counting from left to right) on the back side of power strip #1. Plug the Archive Server power cord from power supply 2 into receptacle one on the back side of power strip #2.
4. Plug the fan into receptacle six of power strip #1. The fan can be plugged into either the front or back side of the power strip.
5. Unplug the Modem Nest from the left vertical power strip and plug it into receptacle three on the back side of power strip #1.
6. Disconnect the left vertical power strip from the underfloor circuit box.
7. If power strip #1 is not already plugged into the circuit for AS2 rack, plug power strip #1 into the outlet that the left vertical power strip was removed from. Open the switch cover door of power strip #1 and toggle the switch on. Close the switch cover door.
8. Move the AS2 processes to AS1 and shutdown AS2.
9. When AS2 is shut down, unplug it from its vertical power strip and plug it into receptacle six on the back side of horizontal power strip #2.
10. Disconnect the right vertical power strip from the underfloor circuit box. If power strip #2 is not already plugged into the circuit for AS2 rack, plug power strip #2 into the outlet that the right vertical power strip was removed from. Open the



- switch cover door of power strip #2 and toggle the switch on. Close the switch cover door.
11. Power on AS2 and restore the AS2 processes.
  12. After AS2 has been returned to operation, configure the WFO Xyplex port 32 for the Archive Server. Access is needed to the Xyplex card on the front of the Xyplex. Tools required: Xyplex tool (a.k.a. paperclip)
  13. 'Quit' to the `Xyplex>` prompt and issue the following commands:  
`Xyplex> set priv system`  
`Xyplex> def port 32 from port 1`  
`Xyplex> def port 32 telnet remote port 5200`
  14. Wait for the Console light on the front of the Xyplex to stop flashing, then issue the following command:  
`Xyplex> init delay 0`
  15. Once the Xyplex has finished rebooting, log into the Xyplex and connect to the AX console by issuing the following command:  
`Xyplex> con xyplex1:5200`

**NOTE:** 2. Console access to the AX will fail because the AX has not been booted up and configured but, the Xyplex console should indicate that the connection has been established.



**Figure 17**

16. After the Console and Card lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit and, using the Xyplex tool, turn write-protection off (see Figure 17). Reinsert the card into the slot on the front of the Xyplex.
17. Reboot the Xyplex again:  
`Xyplex> set priv system`  
`Xyplex> init delay 0`

18. After the Console and Card lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit and, using the Xyplex tool, turn write-protection back on (see Figure 17). Reinsert the card into the slot on the front of the Xyplex.
19. Attach a VGA monitor, mouse, and keyboard to the appropriate ports (J19, J3 & J2 respectively - See Figure 14) on the rear of the AX.
20. Power on the AX and observe the boot process.

<b>NOTE:</b> 3. During the initial boot the system performs a thorough disk check that will take at least 30 minutes to complete.
---

21. Install the formed blank panel<sup>#</sup> above the AX using the longer screws (provided). "Dress" the AX cables and power cord and any other cables that were relocated during the installation in a manner that will allow full and unrestricted extension of the chassis on the slide rails to permit access to the internal components.

This completes the archive server power up procedure.

#### **E. Archive Server Configuration Procedure**

Instructions for configuring the AWIPS RFC Archiver and installing the RFC Archiver software.

Estimated installation time: 1 to 2 hours

Read these INSTRUCTIONS completely before beginning the archiver configuration and installation.

These instructions assume that Sections A through D of these procedures have been performed, and that a VGA monitor, mouse, and keyboard are attached to the Archive Server.

Items about the system to know ahead of time:

- **Hostname site id**

This will be used to set the linux hostname and should be entered in lowercase.

Example: if the DS1 hostname is `ds1-orn`, then the \*hostname site id\* is `orn`.

---

<sup>#</sup>See note under "Parts Required" section on cover page.

- **IP address of the DS1**

To obtain this ID, go to the ds1 and enter:

```
grep ds1-siteid /etc/hosts
```

where siteid is the hostname site ID.

Example (where the siteid=orn):

```
grep ds1-orn /etc/hosts
```

- **IP address of the default gateway**

To obtain this ID, go to the ds1 and enter:

```
grep "ROUTE_GATEWAY\[0\]" /etc/rc.config.d/netconf
```

1. Log into the ds1 machine as 'fxa' and open a terminal window and enter the following:

```
cd /data/fxa/ispan
mkdir hydro_adbs
chmod 777 hydro_adbs
```

This will create the necessary data directory for ingesting the SBN data.

2. Update the acq\_patterns.txt file:

- a. As user "fxa" on ds1 change directory to where the XXX-acqPatternAddOns.txt file is located. It will either be in /data/fxa/customFiles or /awips/fxa/data/localization/XXX, where XXX is the 3-letter site ID.

- b. Edit the XXX-acqPatternAddOns.txt to include the necessary SBN products and the required path of ingest, below is an example entry:

```
TEXT    ^SRU[EMSW] [1-9].. (KTYS|KOHX)    /ispan/hydro_adbs
```

- c. Once that is done a localization needs to be done.

```
cd /awips/fxa/data/localization/scripts
./mainScript.csh -auxFiles
```

- d. Once complete, copy the acq\_patterns.txt file to ds2 and the px's.

```
cd /awips/fxa/data
sh
for host in ds2 px1 px2
do
    rcp acq_patterns.txt $host:/awips/fxa/data
done
exit
```

- e. Restart ingest on ds1:

```
startIngest.ds1
```

3. Update /home/oper/.profile

- a. Log into the the ds1 machine as user "oper" and edit .profile.  
b. Search for: DBNAME. There should be a block of code that contains the following:

```
# DR #798 - Removed Informix variables from  
awips.profile and moved to d.profile.  
# If awips.profile does not exist, we still need to be  
able to access Informix.
```

```
DS=ds1  
DBNAME=ONLINE  
DEVn=`hostname | cut -c1-3`  
if [ "$DEVn" = ds2 ]  
then  
    DS=ds2  
    DBNAME=ONLINE_REP  
fi
```

```
# DR #798 - The following were changed for Build3:  
# DBSERVERNAME, INFORMIXSERVER, ONCONFIG.  
export INFORMIXDIR=/opt/informix  
export PATH=$PATH:$INFORMIXDIR/bin  
export DBSERVERNAME=${DBNAME}  
export INFORMIXSERVER=${DBNAME}  
export ONCONFIG=onconfig.${DS}  
export DBPATH=/awips/ops/forms  
export DBFLTMASK=-1  
export SQLEXEC=$INFORMIXDIR/lib/sqlrm
```

- c. Edit the code to contain the bolded text:

```
# DR #798 - Removed Informix variables from  
awips.profile and moved to d.profile.  
# If awips.profile does not exist, we still need to be  
able to access Informix.
```

```
DS=ds1  
DBNAME=ONLINE  
DEVn=`hostname | cut -c1-3`  
if [ "$DEVn" = ds2 ]  
then  
    DS=ds2  
    DBNAME=ONLINE_REP
```

```

fi
if [ "$DEVn" = ax- ]
then
    DS=ax
    DBNAME=adbs
    export ONCONFIG=onconfig
    export PATH=$PATH:/rfc_arc/bin
    export PATH=$PATH:/awips/hydroapps/lx/public/bin
    export APPS_DEFAULTS=/awips/hydroapps/.Apps_defaults
    export APPS_DEFAULTS_SITE=/awips/hydroapps/.Apps_defaults_site
else
    export DBPATH=/awips/ops/forms
    export DBFLTMASK=-1
    export ONCONFIG=onconfig.${DS}
fi

# DR #798 - The following were changed for Build3:
# DBSERVERNAME, INFORMIXSERVER, ONCONFIG.

export INFORMIXDIR=/opt/informix
export PATH=$PATH:$INFORMIXDIR/bin
export DBSERVERNAME=${DBNAME}
export INFORMIXSERVER=${DBNAME}
#export ONCONFIG=onconfig.${DS}
#export DBPATH=/awips/ops/forms
#export DBFLTMASK=-1
export SQLEXEC=$INFORMIXDIR/lib/sqlrm

```

4. Log into the RFC Archive Database System as root (with no password).

- a. Open a terminal window and enter the following:

```
cat /etc/redhat-release
```

- b. The system should respond with:

```
Red Hat Linux release 7.2 (Enigma)
```

If the response is not this, then these instructions cannot be used. If this is the response, proceed with the next step.

5. Change the root password to the root password used everywhere else on the system. Enter the following to change the root password:

```
passwd
```

6. Create install directory.

```
mkdir /local/install
```

7. Mount the RAX Installation CD by placing the CD into the DVD drive. Wait for the /mnt/cdrom window to appear on the screen. When it does appear, close the

/mnt/cdrom window by selecting "File" and then selecting "Close window". In a terminal window, enter:

```
cd /mnt/cdrom
```

8. Configure the system. Four questions are asked:
  - the hostname site ID (siteid used in the hostnames)
  - address of the DS1
  - address of the default gateway
  - are the displayed system parameters correct (y/n)

**NOTE:** 1. While the script `config-network.sh` is running, the monitor screen may flash and/or darken (go blank). If this happens, simply move the mouse to wake up the screen. This is due to the resetting of the system clock and is not a problem.

9. Enter the following:

```
script -a -f /local/install/config-network.out  
./config-network.sh  
passwd informix  
exit
```

10. Configure RAX hostname/IP for the LAN.

- a. Start a script output:

```
script -a -f /local/install/config-hostnameAX.out  
cd /local/install  
ftp ds1 (login as awipsusr)  
ftp> cd /tmp  
ftp> put config-hostnameAX.sh  
ftp> dir config-hostnameAX.sh  
ftp> quit  
  
telnet ds1 (login as awipsusr)  
  
su - root  
cd /tmp  
chmod 500 config-hostnameAX.sh  
./config-hostnameAX.sh  
rm config-hostnameAX.sh
```

- b. Type in:

```
exit  
exit
```

- c. The first "exit" exits out as root. The second "exit" exits out of ds1 as awipsusr. The RAX box redisplay:  
`exit` (this exits and saves script output)
- 11. Reboot the RAX to ensure system is configured.
  - a. Reboot the system by typing the command:  
`reboot`
  - b. Ignore any **"FAILED"** messages on \*system shutdown\* (before the system actually powers back up). When the system is powering back up, "OK" should display as each item is started on boot-up.

**NOTE:** 2. If a "FAILED" message occurs during the check for new hardware, contact the NCF.

- c. Proceed to the next step if all start-up messages showed **"OK"**.
- 12. Install the RFC Archive Database System Application software.
  - a. Log back in as root with the new root password.
  - b. In the terminal window, enter the following commands:  

```
script -a -f /local/install/config-system.out
mount -o exec /mnt/cdrom
cd /mnt/cdrom
./config-system.sh
exit
```

**NOTE:** 3. Any errors about permission and ownership are normal and can be ignored.

4. Ignore the message at the end of the script to reboot the RAX.

- 13. Unmount the CDROM:  

```
cd /
eject cdrom
```

  - a. If eject fails, type in:  

```
fuser -k /mnt/cdrom
eject cdrom
```
  - b. Remove CDROM from DVD carriage.



14. Load the INFORMIX software on to the RFC Archive Database:

**NOTE:** 5. The serial numbers and serial number keys needed to enter are on the inside of the respective installation CD holder.

```
script -a -f /local/install/Informixinstall.out
```

15. Run setup utility:

```
setup
```

- When this command is run a menu displays on the screen. Ensure **Authentication configuration** is highlighted.
- Hit the tab key till **Run Tool** is highlighted and press **Enter**.
- Hit the Tab key till Use NIS is Highlighted and press spacebar (The Domain field should fill in automatically).
- Continue to hit the Tab key till **Next** is highlighted and press **Enter**; then press the spacebar to turn **Use Shadow Passwords** off. It is not necessary to change any of the other defaults.
- Hit the Tab key till **Ok** is highlighted, and press **Enter**. The main menu will return. Hit the Tab key till **Quit** is highlighted, and press **Enter**.

16. Mount the "Informix SQL Linux" CD by placing the CD into the CDROM drive (**NOT** the DVD drive)

- a. In a terminal window, enter:

```
cd /opt/informix
tar -xvf /mnt/cdrom1/*.tar
./installsql
```

- b. Answer **yes** to any question.

17. Unmount the CDROM:

```
eject cdrom1
```

18. Remove the CD from the tray.

19. Mount the "IBM Informix Dynamic Server" CD by placing the CD into the CDROM.

```
cd /mnt/cdrom1/SERVER
rpm -iv --prefix $INFORMIXDIR *.rpm
cd /opt/informix
```

20. Answer **yes** to any question.

21. Unmount the CDROM:  
`eject cdrom1`
22. Remove the CD from the tray.
23. Mount the "IBM Informix Client Software Development Kit" CD by placing the CD into the CDROM drive.  
`cd /mnt/cdrom1/CLISDK`  
`rpm -iv --prefix $INFORMIXDIR --replacefiles *.rpm`  
`cd /`
24. Answer **yes** to any question.
25. Unmount the CDROM:  
`eject cdrom1`
26. After successfully completing the installation process, create the sqlhosts and onconfig files. A standard copy of both of these files can be found in the `/local` directory. To copy those two files in the necessary directory, type in the following commands:  
`cd /opt/informix/etc`  
`mv sqlhosts sqlhosts.orig`  
`cp /local/sqlhosts .`  
`chmod 664 sqlhosts`  
`chown informix:informix sqlhosts`  
`cp /local/onconfig .`  
`chmod 664 onconfig`  
`chown informix:informix onconfig`
27. Now the database can be started by typing in the following commands:  
`su informix`  
`oninit -i`  
`exit`  
`exit`
28. Answer **yes** to any questions to initialize database.
29. Configure the INFORMIX Database Spaces as follows:
  - a. Logged in as root type:  
`whoami`
  - b. In a terminal window, type:  
`script -a -f /local/install/config-dataspaces.out`
  - c. Place the RAX Installation CD into the DVD drive.  
`eject cdrom` (leave the CD in the DVD carriage)

```
mount -o exec /mnt/cdrom
cd /mnt/cdrom
```

- d. Run the database spaces configuration script:

```
./config-dataspaces.sh
```

- e. Edit the database schema file by typing in the following commands:

```
cd /local
vi adbs_schema.sql
```

The first line of the file contains the following:

```
"create database adb_oblXXX in dbs1 with buffered log;"
```

- f. Replace the XXX with the three (3) letter site ID, then exit and save the file.

30. Create the database by typing in the following commands:

```
dbaccess < adbs_schema.sql
```

A message displays that the database has been created.

31. Load the blank DLT Tape that came with the RAX system and place it in the DLT Tape drive.

32. Create a level 0 archive of the database by typing in the following command:

```
ontape -s -L 0
```

33. Update the link to the new ld.so.conf file by typing in the following command:

```
/sbin/ldconfig
```

34. Install the oper cron by entering the following commands:

```
su - oper
cd /rfc_arc/crons
crontab ./adb_oper_crons
exit
```

35. Install the informix cron by entering the following commands:

```
su - informix
cd /rfc_arc/crons
crontab ./adb_informix_crons
exit
exit
```

36. Configure the shefdecoder by typing:

```
script -a -f /local/install/auto_shefdecode.out
cd /mnt/cdrom
```

- ```
./auto_shefdecode.sh
exit
```
37. Unmount the CDROM:
- ```
cd /
eject cdrom
```
- a. If eject fails, type in:
- ```
fuser -k /mnt/cdrom
eject cdrom
```
- b. Remove CDROM from DVD carriage.
38. Reboot the RAX to ensure the system is configured.
- ```
reboot
```

This completes the archive server configuration procedure.

#### F. Console Port Configuration Procedure

- Log onto the AX as 'root' and perform the following:
  - Add `/dev/ttyS0` to the end of the `<console>` line in `/etc/security/console.perms`:
  - Change this:  

```
<console>=tty[0-9][0-9]* vc/[0-9][0-9]* : [0-9]\.[0-9] : [0-9]
```
  - To this:  

```
<console>=tty[0-9][0-9]* vc/[0-9][0-9]* : [0-9]\.[0-9] : [0-9] /dev/ttyS0
```
- Add this entire line to the end of `/etc/inittab`:  

```
S0:2345:respawn:/sbin/agetty -L 9600 ttyS0 vt100
```
- Add the following entry after the `message=...` line in the file `/etc/lilo.conf`:  

```
serial=0,9600n8
```
- Add `console=ttyS0,9600` to the end of the last line (**append**) in the file `/etc/lilo.conf`. The resulting line reads:  

```
append="hda=ide-scsi console=ttyS0,9600"
```
- Add the following entry to the end of the file `/etc/securetty`:  

```
ttyS0
```

6. Run `/sbin/lilo` and reboot for changes to take effect. Ignore any duplicate entry messages.

This completes the console port configuration procedure.

#### G. PIONEER DVD CD-R/W TESTING PROCEDURE

1. Login to a workstation as 'awipsusr'.
2. Open a terminal window and type the following:  

```
setenv DISPLAY XXX:0.0 (where XXX is the workstation logged on)
xhost +
rlogin ds1
su - root
```
3. Rlogin to the RAX as 'root' and enter the following:  

```
rlogin ax
export DISPLAY=XXX:0.0
/usr/sbin/xcdroast
```

A window displays with the message:  
**No root configuration file found ....**
4. Click the **"OK"** button. The main menu of the program displays.
5. Click the **"Setup"** button located on the left side of the screen. A new screen labeled **"Device-Scan"** displays.
6. Highlight the device labeled **[2,0] Pioneer DVD-RW** by clicking on it with the mouse pointer.
7. Click the third tab near the top of the screen, labeled **"HD settings"**.
8. Click the **"Browse"** button.
  - a. Highlight the `rfc_arc_data` directory and then click the **"OK"** button.
  - b. Click the **"Add"** button. The `rfc_arc_data` directory displays in the window labeled **"Temporary Image Storage Directories"**.
  - c. Click the **"Save Configuration"** button.
  - d. Click the **"OK"** button located on the left side of the screen. The main menu of the program displays.
9. Place a blank CD in the DVD tray.
10. Click the **"Create CD"** button located on the left side of the screen. The **"Create CD"** screen displays.
11. Click the **"Master Tracks"** button located on the left side of the screen.

12. In the right side view window labeled **"File/Directory View"**, highlight the directory labeled **"awips"** by clicking on it with the mouse pointer.
13. Click the **"Add"** button located below the current view window.
14. Click the **"OK"** button. The directory displays in the left side view window labeled **"Session view"**.
15. Above the view windows are five tabs. Click the fifth tab labeled **"Create session image"**. Underneath the tabs two sets of tables display.
  - a. Under the table labeled **"Create session on hard drive"** click the button labeled **"Calculate size"**. A window labeled **"X-CD\_Roast"** at the top displays. This window contains information about the size of the backup image about to be created.
  - b. Click the **"OK"** button at the bottom of the window and the **"X-CD-Roast"** window disappears.
  - c. Click **"Master to image file"** located at the bottom of the **"Create session on hard drive"** table. A window labeled **"X-CD\_Roast"** at the top displays. Under the window label is a second line where **"Mastering successful"** displays with a view window containing information on the created master image.
16. Click the **"OK"** button located at the bottom of the pop up window. The window disappears.
17. Click the **"Write Tracks"** button located on the left side of the screen. A view window labeled **"Tracks to write"** and a table labeled **"write parameters"** display in the middle of the screen.
18. Above the view window labeled **"Tracks to write"** are two tabs. Click the second tab labeled **"Layout tracks"**. A second view window labeled **"Image - Information"** displays to the right of the view window labeled **"Tracks to write"** replacing the **"write parameters"** table.
19. Highlight the image that appears in the **"Image - Information"** view window (there should be only one image in the window) by clicking on it with the mouse pointer.
20. Click the **"Add"** button at the bottom of the **"Image - Information"** view window. The selected image displays in the view window on the left labeled **"Tracks to write"** and appears grayed out in the view window on the right labeled **"Image - Information"**.
21. Click the **"Accept track layout"** button below both view windows. On the right side of the screen, the **"Image - Information"** view window disappears and the write parameters table displays. In the view window labeled **"Tracks to write"** the image selected in step 18 is still visible.

- a. Click the button labeled "Write tracks". A pop-up window with "**Please insert a CD-R/RW....**" displays.
  - b. Click the "**OK**" button. This window disappears. A new "**X-CD-Roast**" window displays with information on the status of the image as it is being written to the CD. Once the write to CD is completed, the DVD tray opens.
  - c. Click the "**OK**" button and the pop-up window disappears.
22. Click the "**Back to main menu**" button located on the left side of the screen.
  23. Click the "**Exit**" button located on the left side of the screen. A pop-up window with "**Do you really want to exit CD\_Roast**" displays.
  24. Click the "**yes**" button. The program exits.
  25. Review the contents of the CD by issuing the following commands:  

```
mount /mnt/cdrom  
cd /mnt/cdrom  
ll -R
```

A listing of the directories/files saved off displays.
  26. Remove the CD by issuing the following commands:  

```
cd /  
eject cdrom
```

This completes the Pioneer DVD CD-RW testing procedure.

#### H. PIONEER DVD DVD-R/W TESTING PROCEDURE

1. Insert a DVD-RW disk into the DVD drive.
2. From a workstation login to ds1 as 'root'.  

```
rlogin ds1
```
3. Rlogin to ax as 'root'.  

```
rlogin ax
```
4. Create a Disk Image to burn to the DVD.  

```
/usr/bin/mkisofs -r -o /rfc_arc_data/image.iso /rfc_arc
```
5. Burn the Image to DVD.  

```
/usr/bin/cdrecordDVD -dao -v speed=8 dev=2,0,0 -data /rfc_arc_data/image.iso
```

**NOTE:** Ignore any WARNING messages.



6. Once the burn is complete, verify the burned DVD.  

```
mount /mnt/cdrom  
cd /mnt/cdrom  
ll -R (This lists all the files on the DVD, and it should match the structure  
under /rfc_arc)  
cd /  
eject cdrom
```
7. Once a successful burn is verified, erase the DVD for future use.  

```
/usr/bin/cdrecordDVD -force blank=all dev=2,0,0
```
8. Remove the DVD-RW from the DVD drive.

This completes the Pioneer DVD DVD-R/W testing procedure.

**REPORTING INSTRUCTIONS:**

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in the NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix F. A sample EMRS report is included as Attachment B. Include the following information:

Equipment code of **AWIPS** in block 7  
Serial number of **001** in block 8  
Modification number as **14** in block 17a

Mark S. Paese  
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - List of Affected Sites  
Attachment B - Sample EMRS Report

## Attachment A List of Affected Sites

SID	Region	Location	State
TAR	Eastern	Taunton	MA
RHA	Eastern	State College	PA
TIR	Eastern	Wilmington	OH
ALR	Southern	Peachtree City	GA
FWR	Southern	Fort Worth	TX
ORN	Southern	New Orleans (Slidell Aiport)	LA
TUA	Southern	Tulsa	OK
MSR	Central	Chanhassen	MN
KRF	Central	Sugarland Estates	MO
NTCA	Central	Kansas City	MO
NTCC	Central	Kansas City	MO
PTR	Western	Portland	OR
STR	Western	Salt Lake City	UT
RSA	Western	Sacramento	CA
ACR	Alaska	Anchorage	AK

## Attachment B

### Sample EMRS Report

A26 Detail Form - ESCM2, SILVER SPRING, MD :: EMRS ANALYST - Microsoft Internet Explorer

New A26 Commit A26 Place on Hold Copy A26 Delete A26 Detail Report Preference Document Summary Help

---

**GENERAL INFORMATION**

NEW RECORD WFO\* CTP Document No.\* CTP30805000

1. Open Date 06/04/2003 Open Time 08:00 2. Op Initials WSH 3. Response Priority  
☐ Immediate ☐ Low  
☐ Routine ☒ Not Applicable 4. Close Date 06/04/2003 Close Time 14:00

5. Maintenance Description 451 characters left AWIPS  
Install the AWIPS Archive Server (AX) at the RFC.

---

**EQUIPMENT INFORMATION**

6. Station ID\* RHA 7. Equipment Code AWIPS 8. Serial Number 001 9. TM M 10. AT M 11. How Mal 999

Alert: Time Remaining: (For Block 12 use only)

---

**13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING**

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
				New Row
				Delete Row

---

**14. WORKLOAD INFORMATION**

a. Routine	b. Non-Routine	c. Travel	d. Misc	e. Overtime
Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes
			6 0	

---

**MISCELLANEOUS INFORMATION**

15. Maintenance Comments 657 characters left  
New AX Serial Number:  
Installed new AWIPS Archive server at RFC I.A.W. AWIPS Mod Note 14.

16. Tech Initials LCT

---

**17. SPECIAL PURPOSE REPORTING INFORMATION**

a. Mod No.	b. Mod Act/Deact Date	c. Block C	d. Trouble Ticket No.	e. Block E
14	06/04/2003			

Commit A26 Place on Hold Copy A26 New A26 Cancel

Internet